Resource estimations in contingency planning for FMD

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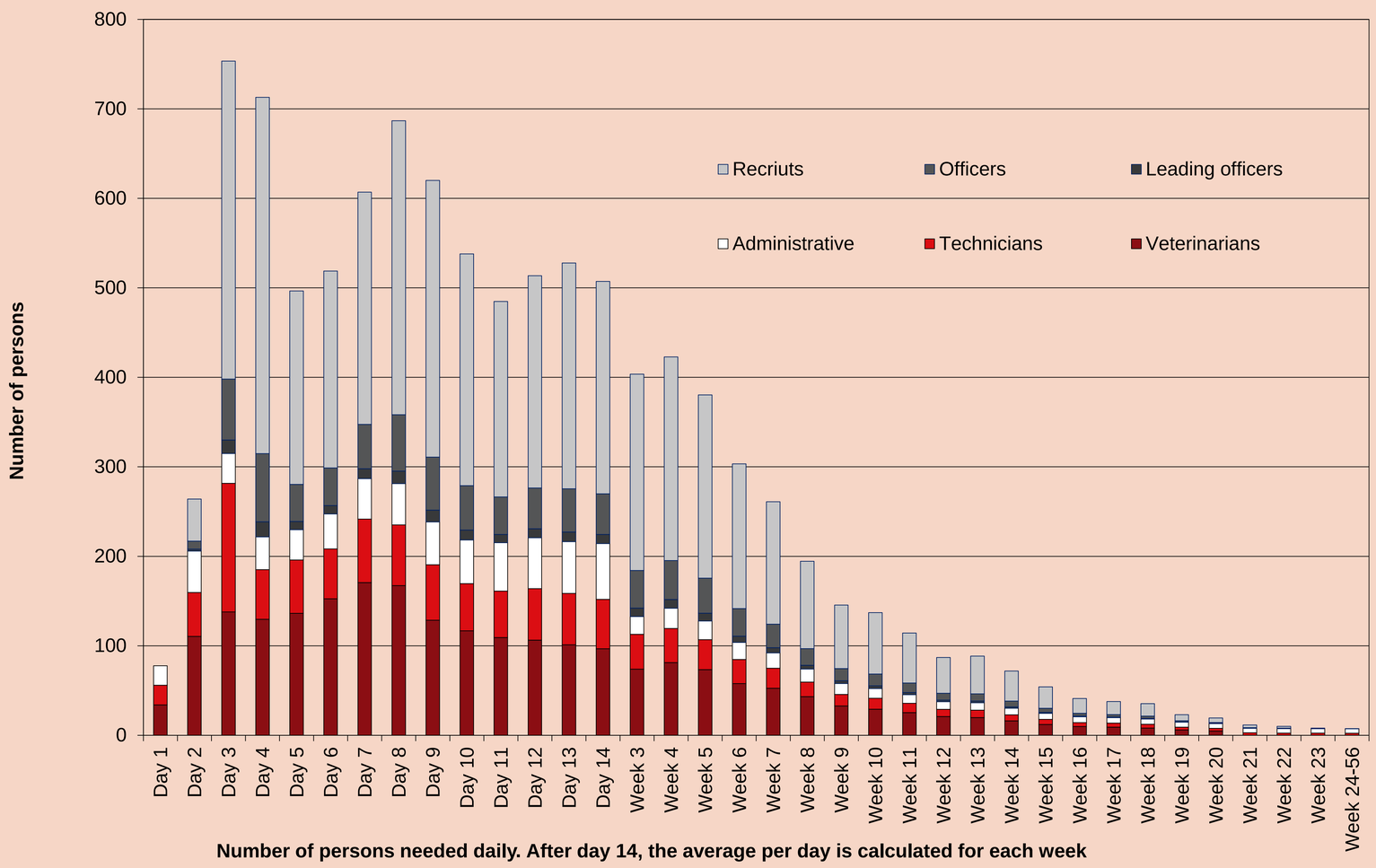
Conclusions:

Based on results from a stochastic simulation model, it was possible to create a simple model in excel to estimate the requirements for personnel and materiel during an FMD outbreak in Denmark.

The model can easily be adjusted, when new information on resources appears from management of other crisis or from new model runs.

Results:



Number of persons needed daily. After day 14, the average per day is calculated for each week

Totals during the epidemics	Average numbers of herds
Diagnosed	118
Depopulated	143
Traced	161
3km	1 768
10km	8 080
Total duration (Days)	87

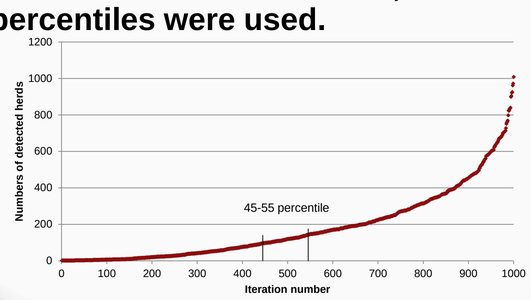
Based on the results from the simulation models, we estimated that the need for personnel would peak on day 7 with a need of approximately 170 veterinarians, 70 technicians and 45 administrative staff. However, the need for personnel in the Danish Emergency Management Agency (responsible for the hygiene barrier and initial cleaning and disinfection of the farm) would peak already on day 4 with a need for almost 500 persons, mostly recruits.

Materials and methods

1. Simulation model

Danish FMD-epidemics were modelled in InterSpread Plus, based on data from 2006-2007 (Boklund et al., 2013)

100 epidemics starting in cattle herds in cattle dense areas were selected for resource calculations. Based on numbers of detected herds, 45-55 percentiles were used.



2. Ressource estimations

Resources for:

- **detected herds**
- **suspected herds**
- **traced herds**
- **herds in zones**
- **local crisis-centers**

Manpower and material was estimated

3. Working group

The Danish Veterinary and Food Administration

- Maren Holm Johansen, head of Veterinary Control Office, North
- Majbritt Birkmose, deputy head of Veterinary Control Office, North
- Jesper Valbak, official veterinarian, Veterinary Control Office, South
- Annelise Pallesen, official veterinarian, Veterinary Control Office, South
- Peter Lybecker Larsen, official veterinarian, Veterinary Control Office, East
- Sten Mortensen, head of contingency planning, head office
- Tina Mørk, *veterinarian, head office*
- Stig Mellergaard, *deputy manager , head office*
- Kim Vandrup Sigsgaard , head of Danish Alert Unit for Food
- Erik Jepsen, *head of information*

The Danish Emergency Management Agency

- Hans Kaj Henrik Bruhn, Major (CP)

National Veterinary Institute, DTU

- Anette Boklund, senior advisor
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Pictures provided by Kirsten Tjørnehøj, DTU-Vet

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